Drones: The Next Frontier Is Here

By William J. Sutton II, LEED AP, CHC, UAS Pilot



In about the time it takes for you to enjoy your morning cup of coffee, we can use our company drone to complete a 50-acre site survey, take aerial video and photos, and send a full report directly to a client's email. That is astonishing! Technology certainly has made its way into every aspect of our daily life, especially in the construction and real estate industries.

Construction is experiencing a bit of a renaissance by way of data, production tools, and virtual collaboration. Drones have become an essential tool for construction teams and developers because of their low cost, high benefit, and ease of use. Drone technology

has been greatly developed over the last five years, almost to the point where drones can literally fly themselves. The regulations are also evolving at lightning speed. This article should get you up to speed on where to start, how to fly legally with your commercial operation, and how to avoid any issues once you are up and running.

I don't know about you, but I have a love/hate relationship with technology. It can be something new to learn or another gadget to update/maintain, but at the end of the day, it's just really cool, especially when it works like a charm. Whenever you are adding a piece of technology to your business practice, you'll often do a return on investment analysis. Will this device save me money? What time is saved by implementing this technology? For us, the drone analysis was simple. Our clients were paying \$750 for each session/flight for aerial photography on multiple projects each month via helicopter or airplane photographers. The cost was justified because of

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the cost of equipment, fuel, airplane/helicopter costs, etc. On the flip side, we did an analysis on the entire cost of investing in drones: training our people, buying drones, and becoming licensed commercial pilots. We saw that with an investment of \$1,000 (per drone + pilot), we could take

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Commercial Agent



New Listings



NEW Commercial Sublease - 4856 Carlisle Pike, Mechanicsburg

- Attractive, updated showroom space with a warehouse area and a large open area located on the second floor
- Located in the Hampden Center in Mechanicsburg
- Warehouse area has two 10' x 10' overhead doors



NEW Office Sale - 1100 N. Mountain Road, Harrisburg

- Brick, single-story office building available for sale
- Property features two tenants and another 1,276 SF suite for the owner/user
- Great signage and visibility on Mountain Road and close proximity to I-81



NEW Office Sale - 4825 E. Trindle Road, Mechanicsburg

- Various opportunities exist at this location
- For the office user, the building lays out well for a small professional/ business office
- For an investor, there is an acre of land for a potential larger office or construction of multi-family units behind the office building



NEW Commercial Sale/Lease - 5610 Derry Street, Harrisburg

- Ideal retail location along heavily traveled Derry Street
- One-story retail building with a large, open showroom/office and warehouse area
- Clean and spacious with nice lighting throughout
- Nice signage available for your business and parking for customers



NEW Office Sale - 1309 Bridge Street, New Cumberland

- Property is comprised of a 12,925+/- SF, two-story brick office building on a 0.65+/- acre parcel with abundant parking
- Currently, there are five (5) tenants in the building with month-tomonth leases
- The property has been well cared for over the years by the original Owner

Featured Land



Lease - Bent Creek Boulevard, Lot 2, Mechanicsburg

- 2.02 Acres available in highly visible corner at the entrance of one of West Shore's most prominent business parks
- Being at a corner with a traffic light and within close proximity to the Wal-Mart and Giant shopping centers, this tract offers a great location for a variety of retail/commercial uses



(Featured article...Continued from page 1)

unlimited aerial photographs and have them available whenever we want across multiple jobsites. On top of this, software such as Drone Deploy enables us to create mapping of our sites and our buildings, something that traditional aerial photography couldn't provide.

We decided to make the investment and have two licensed pilots and two drones in the Air Mowery Fleet. We have found it to have great benefits in our day-to-day business. We are using drones on a weekly basis for almost all of our construction projects. We use the photos to communicate progress in the field with our clients and subcontractors via our project management software. The drone is almost the only way to capture the vast nature of the work, especially since some of our distribution projects are over 1 million square feet. On certain projects which require a lot of earth moving, we will fly our drone, create a topographical map, and be able to compare with previous grades to determine exactly how much earth is moved. We can compare the volume of earth moved and the rates with our project schedule to see if we are actually on schedule or not. This has been a game changer.

Major Drone uses in Construction and Real Estate Today:

- Tracking site/building progress
- 3-D modeling
- Surveying and mapping
- Aerial video/photography
- Measurement
- Envelope inspections (roofing/walls)

How do I Become a Pilot?

If you are interested in becoming a Licensed Commercial Drone Pilot, you can definitely do it! As someone who has taken several credentialed exams, the FAA Part 107 License Exam (Unmanned Aircraft Pilot) was one of the easiest. The average study time is about 50 hours and there are a ton of resources out there to make it accessible even for a novice. I personally benefitted from an online course (www.dronepilotgroundschool.com) which led me through each of the sections both via video/lecture and written syllabus.

Once you have put in your time studying the material, the next priority is to take the exam. Fortunately, there are several testing centers in Pennsylvania. The closest one in Central Pennsylvania is located at the Capitol City Airport – Roth Computerized Testing Center (200 Airport Rd. Suite 200 / (717) 914- 0988). While sitting for the exam, you're allowed to use The FAA-CT-8080-2G, Airman Knowledge Testing Supplement for Sport Pilot, Recreational Pilot, and Private Pilot. It contains the graphics necessary to assist in answering any question on a UAG exam referring to a figure, map, weather report, etc.

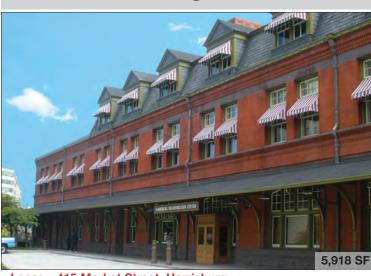
There are Four Main Exam Sections:

- 1. Drone Laws & FAA Regulations
- 2. Weather & Micrometeorology
- 3. National Airspace System (NAS)
- 4. Drone Flight Operations

Tips for Passing the UAS Part 107 Exam:

- Get to know how to prepare for your flight (create your own checklist).
- Know how to communicate with your local airports and airmen.
- Get to know the critical weather definitions and weather patterns.
- Study the maps and understand the legends.
- Find a study partner.
- Take your sample exams. Whatever sections you score weak in, re-study them and re-take the sample exams.
- Watch YouTube videos on exam preparation. (Continued on page 4)

Commercial Listings



Lease - 415 Market Street, Harrisburg

- First floor space available in the Harrisburg Transportation Center in Downtown Harrisburg
- Within walking distance to all the downtown restaurants, amenities, and Riverfront Park



Sale - 3424 N. 6th Street, Harrisburg

- Gorgeous cafe located along North 6th Street in Harrisburg
- The beautifully decorated restaurant has great seating options, including a courtyard and a full kitchen
- Recently updated, the second floor apartment allows for the Owner to stay on-site or for additional income

Industrial Listing



Lease - 151 Allendale Road, Mechanicsburg

- Functional warehouse space with 1,000 SF being office
- Easily accessible from US Route 15, PA Route 581 and I-81
- Includes six docks: 8' x 8'

Here is my Recommended Starter Kit - Around \$1,000



- DJI Phantom 3 Standard Drone \$500
- Training course \$400 (Optional)
- Exam Part 107 FAA Airman Certificate \$150
- Insurance Either \$10 per flight via Verifly.com or your current insurance provider

Before You Fly

If I leave you with one thing from this article, it is that drones should be taken very seriously. While they look and feel very much like a toy (you can even buy my recommended drone at Best Buy), they are not. Failure to fly them safely can result in serious ramifications, such as damage to property, bodily injury, or even death. The Federal Aviation Administration considers all pilots and aircraft the same. They have provided some very valuable resources for current or potential pilots at https://www.faa.gov/uas/.

My goal in writing this article is to educate, promote, and encourage others to get their own pilot's license.

A Few Items to Keep in Mind Prior to Your First Flight:

- 1.) Your drone must be registered with the FAA.
- 2.) If you are flying for construction or real estate purposes (even just for photography), you need a license to fly (FAA Part 107).
- 3.) You should know how to fly safely under all circumstances.

Preparation before each and every flight makes all the difference in the world. A pre-flight survey is an essential part of each pilot's flight. This will allow you to get a lay of the land, assess hazards, and plan your flight path and take-off and landing points. During flight, it is critical to remember to maintain line of sight of your drone at all times. This can be quite difficult across large sites and varying weather conditions (even bright sunny days) but it will enable you to avoid incidents with obstacles or other flying objects.

Three Key Indicators Can Tell You When You CANNOT FLY:

- Restricted airspace
- Bad weather
- Risky locations

Critical Flight Tips

- Be prepared and be aware: Follow a pre-flight checklist each and every time.
- For most drones, there are short flight times (15-30 min) due to battery sizing/weight. You may need multiple batteries.
- Do not fly over people or cars, which can limit the footage that can be obtained.
- It takes practice, at least 100 hours of flight to get good at taking footage.

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Office Listings



Lease - 5275 E. Trindle Road, Mechanicsburg

- Open corner office suite offers functionality and usability
- There are many private offices and large conference room(s) lining the perimeter
- Professional office space features executive sized offices, private in-suite restrooms and two entrances
- Space can be left as one large suite or made into two suites;
 Suite A 2,318 RSF and Suite B 4,133 RSF



Sale/Lease - 1001 S. Market Street, Mechanicsburg

- Two-story professional medical office available
- Recently renovated with high quality finishes and an efficient floorplan
- Desirable location in Southpoint Office Center at the intersection of Market Street and Shepherdstown Road and near Cumberland Parkway exit of Route 15



Sale/Lease - 2151 Linglestown Road, Harrisburg

- First floor condominium in the Saratoga Office Center now available
- Currently built for a medical user, but would work well for other office users
- Located close to Colonial Park, Downtown Harrisburg and all Interstate Highways in the general area



Seeking New Articles



The Bill Gladstone Group of NAI CIR is looking to fill editorial content in our quarterly magazine and monthly newsletter publications.

What Are We Looking For?

Industry related articles that our readership of over 4,500 business decision makers and industry leaders would benefit from reading in print and online through social media. Articles are typically 1,200 – 1,500 words and include an author bio, headshot, and mentioning of your company.

Topics Can Include: Finance, development, law, architecture, technology, engineering, environmental, wellness, current trends, security, business operations, and much more.

Need Assistance With A Topic?

We can suggest one that would be a good fit for your expertise.

Contact: Leah Wentz (717) 761-5070, ext. 116 or lwentz@naicir.com.

Please forward this information to any colleagues you feel could be a good fit for our publications as well. We look forward to hearing from you!



Lease - 535 E. Chocolate Avenue, Hershey

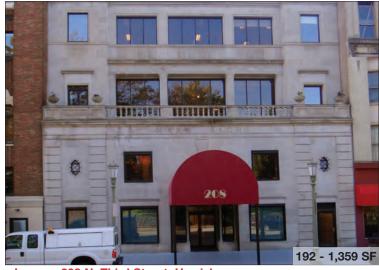
- Class A, build-to-suit office in desirable Hershey location
- Excellent opportunity for user/tenant to help design and customize their new facility to meet their unique space needs
- Over 50 parking spaces available and more available in shared parking area

Office Listings



Sale/Lease - 130 State Street, Harrisburg

- 955 SF available for lease along the State Street corridor leading to the steps of the Capitol Complex
- The entire 3,060 SF building is also available for sale
- Ideal for lobbyist, attorney or other professional who visit the City frequently and could benefit from having a local office
- A nearby parking lot for 6-7 parking spaces is included in the sale (call us for details)



Lease - 208 N. Third Street, Harrisburg

- Remodeled office space in prime Central Business District
- Historic building faces the Capitol Complex with the largest expanse of glass window lines in privately owned building
- Downtown amenities are just a few steps away and parking is a block in every direction
- Additional 4,542 SF available for sublease



Lease - 400 Bent Creek Boulevard, Suite 150, Mechanicsburg

- Professional office space located within the Pennsylvania School Boards Association's building
- The building and suite have been well-maintained and updated since being constructed in 2005
- Over 200 lined parking spaces available in-common

- Take continuing education on the technology, photography, lenses, etc. YouTube is a valuable resource.
- Editing takes twice the time as flying/recording. Learning a new video editing software can be equally challenging, but you can send raw footage to an outsourced company for composition, branding, etc.

The future of commercial drones is exciting and scary at the same time. Drones are getting smaller, carrying more substantial loads, flying farther, and becoming safer all the time. I cannot even imagine how different they will be in the next 5 to 10 years.

I recently learned of a start-up company, Zipline, which has partnered with the Republic of Rwanda to deliver blood and other critical medical supplies to remote parts of the country. This operation is cutting delivery times from four hours to 30 minutes, resulting in more lives saved. I foresee drones continuing to evolve to the point where they truly fly themselves, provide more data, deliver everyday products within minutes of ordering, and more.

Here are Some Other Emerging Uses for Drones:

- Firefighting (controlled burning or extinguishing)
- Live broadcast feeds
- First-person tours of jobsites (streaming drone camera feeds)
- 360-degree cameras (immersive, virtual reality)
- Infrared cameras to detect envelope performance on buildings (or detect humans or animals)
- Deliveries
- Security assessment
- Passenger vehicles (Personal flying aircraft)
- Conservation, hunting and fishing applications
- Cinema
- Sports/Racing

At the end of the day, I find that flying a drone can be quite peaceful. It provides a wonderful bird's-eye vantage point of our projects which cannot be conveyed by any other means. I immensely enjoy drone piloting, and we enjoy sharing the photography with our clients. That is not to say that is isn't serious business. It requires attention to detail and a priority on safety. I encourage you get your own UAS pilot's license and explore the possibilities with drones. Please enjoy, share, and fly safe.



About the Author:

William J. Sutton II was recently names Vice President of Business Development for Mowery. Prior to this promotion, Bill worked in various areas of construction from estimating to project management. He graduated from Catholic University with a degree in Civil Engineering with a concentration in Construction Management. He

holds several industry credentials such as LEED AP, Certified Healthcare Contractor and the commercial drone pilots license (Unmanned Aircraft Systems- Part 107). He has led the charge for Mowery in their integration of various technological innovations which include the usage of Drones, 360 Degree Cameras for Photos/Videos/VR, Mobile Tech Centers for Jobsite Collaboration and Procore (Cloud Based Project Management Software). When he isn't flying his drone (has logged over 100 flights), he is spending time with his family and coaching his two children, Connor and Molly, in various sports and activities. You can reach him at (717) 506-1000 or wsutton@rsmowery.com.

Office Listings



Lease - 30 N. Third Street, Harrisburg

- 1,443 20,112 SF contiguous available in Class A office building
- Skywalk to Strawberry Square, Walnut Street garage, Harrisburg Hilton, Whitaker Center, etc.
- This building is Energy Star Certified and utilizes the latest energy management systems for optimal energy efficiency



Lease - 3425 Simpson Ferry Road, Camp Hill

- One suite available
- Office area has great perimeter window lines designed for professional users
- Ample parking on-site and easy access to Route 15, Route 581, and the PA Turnpike (I-76)
- Amenities close by including banks, restaurants, shopping, and convenience stores



Lease - 4386 Sturbridge Drive, Harrisburg

- Class A office space for medical or professional use
- Space in shell condition, ready to accept a build-out designed to suit tenant
- Located along Route 39 with access to amenities such as lodging, eateries, gas, banking and all major transportation corridors



Lease - 1801 Oberlin Road, Middletown

- Charming three-story stone structure with professional office tenants
- Convenient access to both Harrisburg and Lancaster
- Easy access to Harrisburg International Airport

Investment Listings



Sale - Confidential, Harrisburg

- Well-maintained, 3-story masonry building overlooking the Susquehanna River
- Five (5) year lease renewal starts January 1, 2019
- No deferred maintenance and on-site parking available
- Signed Confidentiality Agreement needed for additional information



Sale - Confidential, Camp Hill

- Great investment opportunity now available
- · Excellent visibility along a major corridor
- Signed Confidentiality Agreement needed for additional information

Location	Acres	Zoning	Туре
300 S. Sporting Hill Road, Mechanicsburg, Cumberland County	1.19	Apartment Office Limited (AOL)	Sale
370 W. Main Street, Leola, Lancaster County	1.3 - 2.8	General Commercial	Sale/Lease
Allentown Boulevard and N. Hershey Road, Harrisburg, Dauphin County	1.35 (1 lot)	Business Enterprise District	Sale
Bent Creek Boulevard, Lot 2, Mechanicsburg, Cumberland County	2.02	Community Commercial	Lease
7700 Derry Street, Harrisburg, Dauphin County	2.12 (lot 4)	Commercial District General	Sale
I-81 and W. Trindle Road, Carlisle, Cumberland County	2.18 (2 parcels)	Commercial Highway	Sale
Foot Cumbarland Street (Doute 199) Laboren Laboren County	2.2	Commercial	Sale
8001 Grayson Road, Harrisburg, Dauphin County	2.25	Commercial	Lease
7700 Derry Street, Harrisburg, Dauphin County	2.3 (lot 8)	Commercial District General	Lease
2600 Delta Road, Brogue, York County	2.5	General Commercial	Sale/Lease
St. Johns Road, Camp Hill, Cumberland County	3.05	General Commercial District	Sale
Pending - W. Trindle Road, Mechanicsburg, Cumberland County	4.13	Highway Commercial	Sale
700 S. Baltimore Street, Dillsburg, York County	5.23 - 57.5	Agricultural - Conservation (AC)	Sale
Eisenhower Boulevard, Harrisburg, Dauphin County	5.39	Commercial General	Sale
Pending - Lancer Street Extended, Harrisburg, Dauphin County 503 Jonestown Road, Jonestown, Lebanon County	7.52	Medium Density Residential (R-2)	Sale
503 Jonestown Road, Jonestown, Lebanon County	7.91	Commercial	Sale
Route 441 and Orchard Drive, Harrisburg, Dauphin County	8.34	Single Family Residential District	Sale
Price Reduced - 730 Limekiln Road, New Cumberland, York County	8.64	Commercial Business	Sale
Carlisle Pike (Route 11) Waterford Square, Mechanicsburg, Cumberland County	9.6 (11 lots)	Community Commercial (C2)	Sale
Eisenhower Blvd & Highspire Road, Harrisburg, Dauphin County	10	Commercial District General	Sale
Route 75 & William Penn Highway, Mifflintown, Juniata County	11	Industrial Commercial	Sale/Lease
Gettysburg Pike & Spring Lane Road, Dillsburg NWC and SWC, York County	14.68 & 14.92	Commercial	Sale
Price Reduced - Allentown Boulevard, Harrisburg, Dauphin County	17+	Commercial Highway (CH)	Sale
3050 Heidlersburg Road, York Springs, York County	18.16	Highway Commercial	Sale/Lease

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Check Out Our Recent Deals

Visit www.billgladstone.com to view listings not included in this issue.



SOLD - 1800 - 1802 State Street, Harrisburg

Harrisburg Electricians Joint Apprentice Shop and Training purchased this 19,000+/- SF building to use as their new training facility. The Bill Gladstone Group of NAI CIR represented the Buyer and Brad Boyer of Century 21 Realty Services represented the Seller.



LEASED - 3425 Simpson Ferry Road, Suite 203, Mechanicsburg

Pickering, Corts & Summerson, Inc. leased 1,835 SF of office space in Mechanicsburg. The company has a distinguished history of performing surveying, engineering, and other related design and construction oversight services. The Bill Gladstone Group of NAI CIR represented the lessor and Andy Kohr of Landmark Commercial Realty Inc. represented the lessee. Space remains available in the building.

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